

ABSTRACT OF THE DISCLOSURE

A modulator circuit comprises a negative impedance amplifier which is operable such that a signal applied to the amplifier is reflected and amplified. Switching circuitry is provided for switching the impedance of the amplifier between two reflecting states such that the reflected and amplified signal is phase modulated. The impedances of the negative impedance amplifier are selected such that the phase of the reflected and amplified signal switches by substantially  $180^\circ$ . Preferably, the impedances of the negative impedance amplifier in the two reflecting states are selected such that the reflection gain of the amplifier in the two reflecting states is substantially the same such that the reflected and amplified signal is a binary phase shift keyed.

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